

PATENT ABSTRACTS OF JAPAN

(11)Publication number : 2002-075717

(43)Date of publication of application : 15.03.2002

(51)Int.Cl. H01F 1/053

G22C 38/00

(21)Application number : 2001-175316

(71)Applicant : SHIN ETSU CHEM CO LTD

(22)Date of filing : 11.06.2001

(72)Inventor : YAMAMOTO KENJI
TADAMI KORO
MINOWA TAKEHISA

(30)Priority

Priority number : 2000176595 Priority date : 13.06.2000 Priority country : JP

(54) R-Fe-B RARE EARTH PERMANENT MAGNET MATERIAL

(57)Abstract:

PROBLEM TO BE SOLVED: To provide an R-Fe-B rare earth permanent magnet material, in which abnormal grains are grown less, even if an alloy is decreased in oxygen content by separating out ZrB compound, NbB compound, or HfB compound finely and uniformly in a magnet, so as to markedly expand its range of optimal sintering temperature.

SOLUTION: An RFeB magnet alloy is composed of 87.5 to 97.5 vol.% Fe₁₄R₂B₁ phase (wherein, R denotes at least a kind of rare earth element) and 0.1 to 3 vol.% rare earth or rare earth and oxide of transition metal. A compound selected out of a ZrB compound composed of Zr and B, an NbB compound composed of Nb and B, or an HfB compound composed of Hf and B as main components is contained in the metallic structure of the above alloy, and the compound grains are smaller than 5 μ m in average grain diameter and dispersed in the alloy at a maximum interval of 50 μ m or smaller.

LEGAL STATUS

[Date of request for examination] 25.07.2003

[Date of sending the examiner's decision of rejection]

[Kind of final disposal of application other than the
examiner's decision of rejection or application
converted registration]

[Date of final disposal for application]

[Patent number]

[Date of registration]

[Number of appeal against examiner's decision of
rejection][Date of requesting appeal against examiner's decision
of rejection]

[Date of extinction of right]

Copyright (C); 1998,2003 Japan Patent Office